Amendments to the Claims

This listing of claims replaces all previous listings of claims.

1. (Currently amended) A method of diagnosing Crohn's disease in a subject, the method comprising providing a test sample from a subject with symptoms of Crohn's disease; and

identifying ~~at least one~~ a specific anti-glycan antibody in said sample, wherein said ~~at least one~~ specific anti-glycan antibody is ~~selected from the group consisting of an anti-Glc (β) antibody, an anti-Glc (β 1-4) Glc (β) antibody, an anti-Glc (β 1-3) Glc (β) antibody, an anti-GlcNAc 6-sulfate (β) antibody, an anti-Dextran antibody, an anti-Xylan antibody,~~ an anti-GlcNAc (β 1-4) GlcNAc (β) antibody~~, an anti-Gal 3 sulphate (β) antibody, an anti-GlcNAc (β 1-3) GalNAc (β)antibody, an anti-GlcNAc (β 1-3) Gal (β 1-4) Glc (β)antibody, and an anti-Gal (α 1-3) Gal (β 1-4) GlcNAc (β) antibody~~;

wherein the ~~presence~~ identification of elevated levels of said antibody in said test sample relative to a control sample indicates the subject has Crohn's disease.

2. (Currently amended) The method of claim 1, wherein said method further comprises comparing levels of said ~~at least one~~ specific anti-glycan antibody in said test sample to levels of said ~~at least one~~ specific anti-glycan antibody in a control sample, wherein said control sample is selected from the group consisting of one or more individuals known to have or not to have a gastrointestinal disorder other than Crohn's disease.

3. (Original) The method of claim 2, wherein said control sample is from one or more individuals with a gastrointestinal disorder that is irritable bowel syndrome or ulcerative colitis.

4. (Original) The method of claim 2, wherein said control sample is from one or more individuals that do not have a gastrointestinal disorder.

5. (Currently amended) The method of claim 1, wherein said method further comprises identifying at least one ~~two of said antibodies~~ of an anti-Glc (β 1-3) Glc (β) antibody and polysaccharide β-D (1-3) Glucan in said sample.

6. (Currently amended) The method of claim 1, wherein said method further comprises identifying ~~at least four of said antibodies~~ an anti-Glc (β 1-3) Glc (β) antibody and polysaccharide β-D (1-3) Glucan in said sample.

7. (Canceled)

8. (Previously presented) The method of claim 1, further comprising determining whether said test sample has an anti- Mannan (ASCA) antibody, wherein the subject is assessed as having Crohn' disease if said anti-ASCA antibody is present in said sample.

9. (Previously presented) The method of claim 1, further comprising determining whether said test sample has anti-neutrophil cytoplasmic antibodies (ANCA), wherein the subject is assessed as not having Crohn's Disease if said anti-neutrophil cytoplasmic antibodies (ANCA) are present in said sample.

10. (Previously presented) The method of claim 8, further comprising determining whether said test sample has an anti-neutrophil cytoplasmic antibodies (ANCA), wherein the subject is assessed as not having Crohn's Disease if said anti-neutrophil cytoplasmic antibodies (ANCA) are present in said sample.

11. (Currently amended) The method of claim 1, wherein said method comprises identifying ~~said anti- Glc (β 1-3) Glc (β) antibody, and~~ one, two, or three of [[said]] anti-Man (α 1-3) Man (α) antibody, anti-Man (α 1-3)[Man (α 1-6)] Man (α) antibody, anti-Man (α 1-2) Man (α),anti-Man (α 1-6) Man (α) or an anti-Mannan (ASCA) antibody in said sample.

12. (Original) The method of claim 1, wherein said test sample is a biological fluid.

13. (Original) The method of claim 12, wherein said biological fluid is whole blood, serum, plasma, urine, or saliva.

14. (Previously presented) The method of claim 12, wherein said biological fluid is serum.

15. (Currently amended) The method of claim [[1]]5, further comprising determining an isotype of said antibody.

16. (Currently amended) The method of claim 15, wherein said ~~at least one~~ antibody is an IgM isotype antibody.

17. (Currently amended) The method of claim 15, wherein said ~~at least one~~ antibody is an IgA isotype antibody.

18. (Currently amended) The method of claim 15, wherein said ~~at least one~~ antibody is an IgG isotype antibody.

19. (Original) The method of claim 18, wherein said IgG antibody is an anti-Glc (β) antibody, an anti-Glc (β 1-3) Glc (β) antibody, an anti-Glc (β 1-4) Glc (β) antibody, an anti-GlcNAc (β) 6-sulfate antibody, or an anti-Xylan antibody .

20. (Currently amended) The method of claim [[1]]5, wherein said ~~at least one~~ specific anti-glycan antibody is identified with a fluorescent antibody.

21. (Currently amended) The method of claim [[1]]5, wherein said ~~at least one~~ specific anti-glycan antibody is identified with an enzyme-linked immunoabsorbent assay (ELISA).

22. (Currently amended) A method of diagnosing Crohn's disease in a subject, the method comprising providing a test sample from a subject with symptoms of Crohn's disease; and identifying ~~at least one~~ a specific anti-glycan antibody in said test sample, wherein said ~~at least one~~ specific anti-glycan antibody is ~~selected from the group consisting of~~ an [[IgG]] anti-Glc (β 1-3) Glc (β) antibody ~~and an IgG anti-Man (α 1-3) Man (α) antibody;~~; wherein the

~~presence~~ identification of elevated levels of said ~~at least one specific~~ antibody in said test sample relative to a control sample indicates the subject has Crohn's disease.

23. (Previously presented) The method of claim 22, wherein said method comprises identifying an IgG anti-Glc (β 1-3) Glc (β) antibody in said sample.

24. (Currently amended) The method of claim 23, wherein said method further comprises identifying an IgG anti-Man (α 1-3) Man (α) antibody in said sample.

25. (Previously presented) The method of claim 22, wherein said method comprises identifying an IgG Glc (β 1-3) Glc (β) antibody and an IgG anti-Man (α 1-3) Man (α) antibody in said sample.

26. (Previously presented) The method of claim 22, wherein said method further comprises determining whether said sample has an IgG anti- Mannan or an IgA anti- Mannan antibody, wherein said subject is assessed has having Crohn's Disease if said IgG anti- Mannan or IgA anti- Mannan antibody is present in said sample.

27. (Original) The method of claim 26, wherein said method comprises determining whether said sample has an IgG anti- Mannan antibody.

28. (Original) The method of claim 26, wherein said method comprises determining whether said sample has an IgA anti-Mannan antibody.

29. (Previously presented) The method of claim 26, wherein said method further comprises determining whether said sample has anti-neutrophil cytoplasmic antibodies (ANCA), wherein said subject is assessed as having Crohn's Disease if said ANCA are absent in said sample.

30. (Currently amended) A method of differentially diagnosing Crohn's disease or inflammatory bowel disease in a subject with symptoms of Crohn's disease or inflammatory bowel disease, the method comprising providing a test sample from a subject; and identifying ~~at least one~~ a specific antibody in said sample, wherein said ~~at least one~~ specific antibody is selected from the group consisting of

anti-neutrophil cytoplasmic antibody (ANCA)[[,]] and

IgG anti-Glc (β 1-3) Glc (β)[[,]];

the method further comprising identifying a specific ASCA antibody selected from the group consisting of

IgG ASCA[[;]] and

IgA ASCA,

wherein absence of ANCA and presence of at least one of said IgG anti-Glc (β 1-3) Glc (β), IgG ASCA, and IgA ASCA antibodies in said test sample indicates the subject has Crohn's disease, and

wherein the subject is assessed as having inflammatory bowel disease ~~(UC or CD)~~ if ANCA is ~~absent~~ present and at least one of said IgG anti-Glc (β 1-3) Glc (β), IgG ASCA, and IgA ASCA antibodies are present in said test sample.

Claims 31-42 (Canceled)

43. (New) The method of claim 22, wherein said method further comprises comparing levels of said at least one specific anti-glycan antibody in said test sample to levels of said at least one specific anti-glycan antibody in a control sample, wherein said control sample is selected from the group consisting of one or more individuals known to have or not to have a gastrointestinal disorder other than Crohn's disease.

44. (New) The method of claim 43, wherein said control sample is from one or more individuals with a gastrointestinal disorder that is irritable bowel syndrome or ulcerative colitis.

45. (New) The method of claim 43, wherein said control sample is from one or more individuals that do not have a gastrointestinal disorder.

46. (New) The method of claim 22, wherein said method further comprises identifying at least one of an anti-GlcNAc (β 1-4) GlcNAc (β) antibody and polysaccharide β-D (1-3) Glucan in said sample.

47. (New) The method of claim 22, wherein said method further comprises identifying an anti-GlcNAc (β 1-4) GlcNAc (β) antibody and polysaccharide β-D (1-3) Glucan in said sample.

48. (New) The method of claim 22, further comprising determining whether said test sample has an anti- Mannan (ASCA) antibody, wherein the subject is assessed as having Crohn' disease if said anti-ASCA antibody is present in said sample.

49. (New) The method of claim 22, further comprising determining whether said test sample has anti-neutrophil cytoplasmic antibodies (ANCA), wherein the subject is assessed as not having Crohn's Disease if said anti-neutrophil cytoplasmic antibodies (ANCA) are present in said sample.

50. (New) The method of claim 48, further comprising determining whether said test sample has an anti-neutrophil cytoplasmic antibodies (ANCA), wherein the subject is assessed as not having Crohn's Disease if said anti-neutrophil cytoplasmic antibodies (ANCA) are present in said sample.

51. (New) The method of claim 22, wherein said test sample is a biological fluid.

52. (New) The method of claim 51, wherein said biological fluid is whole blood, serum, plasma, urine, or saliva.

53. (New) The method of claim 51, wherein said biological fluid is serum.

54. (New) The method of claim 46, further comprising determining an isotype of said antibody.

55. (New) The method of claim 54, wherein said antibody is an IgM isotype antibody.

56. (New) The method of claim 54, wherein said antibody is an IgA isotype antibody.

57. (New) The method of claim 54, wherein said antibody is an IgG isotype antibody.

58. (New) The method of claim 57, wherein said IgG antibody is an anti-Glc (β) antibody, an anti-Glc (β 1-3) Glc (β) antibody, an anti-Glc (β 1-4) Glc (β) antibody, an anti-GlcNAc (β) 6-sulfate antibody, or an anti-Xylan antibody .

59. (New) The method of claim 46, wherein said specific anti-glycan antibody is identified with a fluorescent antibody.

60. (New) The method of claim 46, wherein said specific anti-glycan antibody is identified with an enzyme-linked immunoabsorbent assay (ELISA).

61. (New) The method of claim 22, wherein said method comprises identifying said anti-Glc (β 1-3) Glc (β) antibody, and one, two, or three of anti-Man (α 1-3) Man (α) antibody, anti-Man (α 1-3)[Man (α 1-6)] Man (α) antibody, anti-Man (α 1-2) Man (α),anti-Man (α 1-6) Man (α) or an anti- Mannan (ASCA) antibody in said sample.

62. (New) The method of claim 1, further comprising determining an isotype of said antibody, wherein said antibody is an IgA isotype antibody.

63. (New) The method of claim 22, further comprising determining an isotype of said antibody, wherein said antibody is an IgA isotype antibody.